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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,107	10/31/2003	Michael Patrick Harmon	08350.3199	1451

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Finnegan, Henderson, Farabow,
Garrett & Dunner, L.L.P.
1300 I Street, N.W.
Washington, DC 20005-3315

EXAMINER

CHANG, CHING

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/697,107	Applicant(s) HARMON, MICHAEL PATRICK	
	Examiner Ching Chang	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9-17, 24 is/are rejected.
- 7) ☒ Claim(s) 3-8 and 18-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/31/2003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1a). ***Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of Leman (U.S. Patent 6,679,207).***

Although the claims are not identical, they are not patentably distinct from each other because the claim of this instant application is substantially the same as that claimed in the US '207 Patent; however, the scope of claim 1 in this instant application lacks of a phase shifting device adapted to adjust the phase of the second cam relative to the first cam and other related limitations, and thus is broader than that of claim 5 in the US '207 Patent.

1b). ***Claim 10 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 15 of Leman (U.S. Patent 6,679,207).***

Although the claims are not identical, they are not patentably distinct from each other because the claim of this instant application is substantially the same as that claimed in the US '207 Patent; however, the scope of claim 10 in this instant application lacks of adjusting the rotational phase of the second cam relative to the first cam and other related limitations, and thus is broader than that of claim 15 in the US '207 Patent.

1c). ***Claim 14 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 12 of Leman (U.S. Patent 6,679,207).***

Although the claims are not identical, they are not patentably distinct from each other because the claim of this instant application is substantially the same as that claimed in the US '207 Patent; however, the scope of claim 14 in this instant application lacks of a means for shifting the phase of the second cam to adjust the rotational phase of the second cam relative to the first cam and other related limitations, and thus is broader than that of claim 12 in the US '207 Patent.

1d). ***Claim 16 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 19 of Leman (U.S. Patent 6,679,207).***

Although the claims are not identical, they are not patentably distinct from each other because the claim of this instant application is substantially the same as that claimed in the US '207 Patent; however, the scope of claim 16 in this instant application lacks of a phase shifting device adapted to adjust the phase of the second cam relative to the first cam and other related limitations, and thus is broader than that of claim 19 in the US '207 Patent.

Claim Objections

2. Claim 15 is objected to because of the following informalities:
 - " the first cam roller " and " the second cam roller " in claim 15 appear to be -- a first cam roller -- and -- a second cam roller -- respectively.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

Art Unit: 3748

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. *Claims 1-2, 10-12, 14-15, and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen et al. (US Patent 5,685,264).*

Allen discloses an engine, comprising: a block defining a combustion chamber (See Fig. 3); a crankshaft; a valve actuation system and a method of using the said system to actuate an engine valve including: an engine valve (13) operatively associated with the combustion chamber and moveable between a first position at which the engine valve prevents a flow of fluid relative to the combustion chamber and a second position at which the fluid flows relative to the combustion chamber; a first cam (11) adapted to move the engine valve from the first position to the second position during a first lift period in response to a rotation of the crankshaft; a second cam (12) adapted to move the engine valve from the first position to the second position during a second lift period in response to a rotation of the second cam; and a cam following assembly (See Figs. 3-4) disposed between the first and second cams and the engine valve, the cam following assembly adapted to selectively connect one of the first and second cams with the engine valve to thereby move the engine valve through one of the first and second lift periods (See Col. 7, line 28 through Col. 10, line 24), wherein the cam following assembly further includes: a first and second cam roller (26, 38); a cam follower base (16); a first cam lever (24) pivotally connecting the first cam roller to the

Art Unit: 3748

cam follower base; and a second cam lever (23) fixedly connecting the second cam roller to the cam follower base.

Allen further discloses the operating the cam following assembly includes directing a pressurized fluid to a bore (of 29) in the cam following assembly to move a piston (30) into engagement with a first cam lever to connect the second cam with the engine valve, releasing the pressurized fluid from the bore to connect the first cam with the engine valve, and allowing the pressurized fluid to leak past the piston in the bore to allow the piston to retract into the bore (See Figs. 1-3).

5. *Claims 1, 10, 14, and 16 are rejected under 35 U.S.C. 102(2) as being anticipated by Wiekmeijer (US Patent 6,595,170).*

Wiekmeijer discloses an engine (See Figs. 1-3), comprising: a block defining a combustion chamber; a crankshaft; a valve actuation system and a method of using the said system to actuate an engine valve including: an engine valve (1) operatively associated with the combustion chamber and moveable between a first position at which the engine valve prevents a flow of fluid relative to the combustion chamber and a second position at which the fluid flows relative to the combustion chamber; a first cam (12) adapted to move the engine valve from the first position to the second position during a first lift period in response to a rotation of the crankshaft; a second cam (14) adapted to move the engine valve from the first position to the second position during a second lift period in response to a rotation of the second cam; and a cam following assembly (20) disposed between the first and second cams and the engine valve, the

Art Unit: 3748

cam following assembly adapted to selectively connect one of the first and second cams with the engine valve to thereby move the engine valve through one of the first and second lift periods (See Col. 5, line 11 through Col. 8, line 20).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. ***Claims 9 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (as applied to claims 1 and 17/16 above) in view of Vorih et al. (US Patent 5,829,397).***

Allen discloses the invention, however, fails to disclose the said valve actuation system further including a rocker arm and a push rod.

The patent to Vorih on the other hand, teaches that it is conventional in the art of engine valve actuation system, to have utilized a rocker arm (202) operatively connected with the engine valve (300) and a push rod (212) operatively connected between a cam follower (214) and the rocker arm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the rocker arm and the push rod as taught by Vorih

Art Unit: 3748

in the Allen device, since the use thereof would provide an improved engine valve actuation system.

8. ***Claims 2, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiekmeijer (as applied to claims 1, 14, and 16 above) in view of Allen et al. (US Patent 5,685,264).***

Wiekmeijer discloses the invention, however, fails to disclose the cam following assembly including cam rollers, cam follower base, and cam levers.

The patent to Allen on the other hand, teaches that it is conventional in the cam mechanism art, to have utilized a cam following assembly including a first and second cam roller (26, 38); a cam follower base (16); a first cam lever (24) pivotally connecting the first cam roller to the cam follower base; and a second cam lever (23) fixedly connecting the second cam roller to the cam follower base.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the cam following assembly as taught by Allen in the Wiekmeijer device, since the use thereof would provide an improved engine valve actuation system.

9. ***Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (as applied to claim 11/10 above) in view of Cote (US Patent 3,777,729).***

The Allen method discloses the invention, however, fails to disclose a bleed valve being used with the piston.

Art Unit: 3748

The patent to Cote on the other hand, teaches that it is conventional in the hydraulic engine governor art, to have utilized a bleed valve (70) with a hydraulic actuator (30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the bleed valve as taught by Cote in the Allen method, since the use thereof would provide an improved engine valve actuation method.

Allowable Subject Matter

10. Claims 3-8, and 18-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

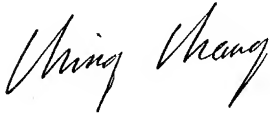
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (703)306-3478. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703)308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

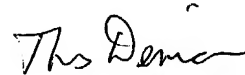
Art Unit: 3748

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner



Ching Chang



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700